9. **Hypopituitarism is characterized by:**
   a. infertility
   b. pallor
   c. a low basal metabolic rate
   d. all are correct .

10. **Pancreatic glucagon:**
   a. is a polypeptide produced by the beta cells of the islets of Langerhans
   b. is essential for the maintenance of the blood glucose level
   c. output is directly proportional to the blood glucose level
   d. increases the breakdown of liver glycogen

11. **When a thyroid gland increases its activity, all the following are correct EXCEPT:**
   a- the follicles enlarge and fill with colloid
   a- small gaps (lacunae) appear in the colloid
   b- the follicular cells become more columnar
   c- it takes up iodide from the blood at a faster rate

12. **Oxytocin secretion promotes all of the following actions EXCEPT:**
   a- Myometrial contraction.
   b- Lactogenesis.
   c- Milk ejection.
   d- Myoepithelial contraction.

13. **Calcitonin :**
   a- Secretion is stimulated by high plasma calcium concentration.
   b- Stimulates osteoclastic activity.
   c- Stimulates Ca and phosphate reabsorption in renal tubules.
   d- Secretion can be inhibited by gastrin and estrogen.

14. **Calcitriol:**
   a. Stimulates Ca ions reabsorption from PCT of kidney.
   b. Inhibits calbindin-D protein in the intestinal mucosa.
   c. In low or moderate concentrations stimulate osteoclasts to mobilize Ca and phosphate ions from bone.
   d. Calcitriol synthesis is stimulated by a low plasma phosphate.

15. **Glucagon:**
   a. Increases glucose output from the liver.
   b. Is stimulated by GABA release from B- cells.
   c. Is stimulated by secretin hormone.
   d. Is stimulated by alpha-adrenergic stimulants

16. **All of the following are endocrine glands not under the anterior pituitary control EXCEPT:**
   a- Parathyroid gland.
   b- Posterior pituitary.
   c- Thyroid gland.
   d- Adrenal medulla.

17. **All of the following are biochemical effects of cortisol EXCEPT:**
   a- Hepatic lipogenesis.
   b- Hepatic gluconeogenesis.
   c- Hepatic protein anabolism.
   d- Hepatic glycogenesis.

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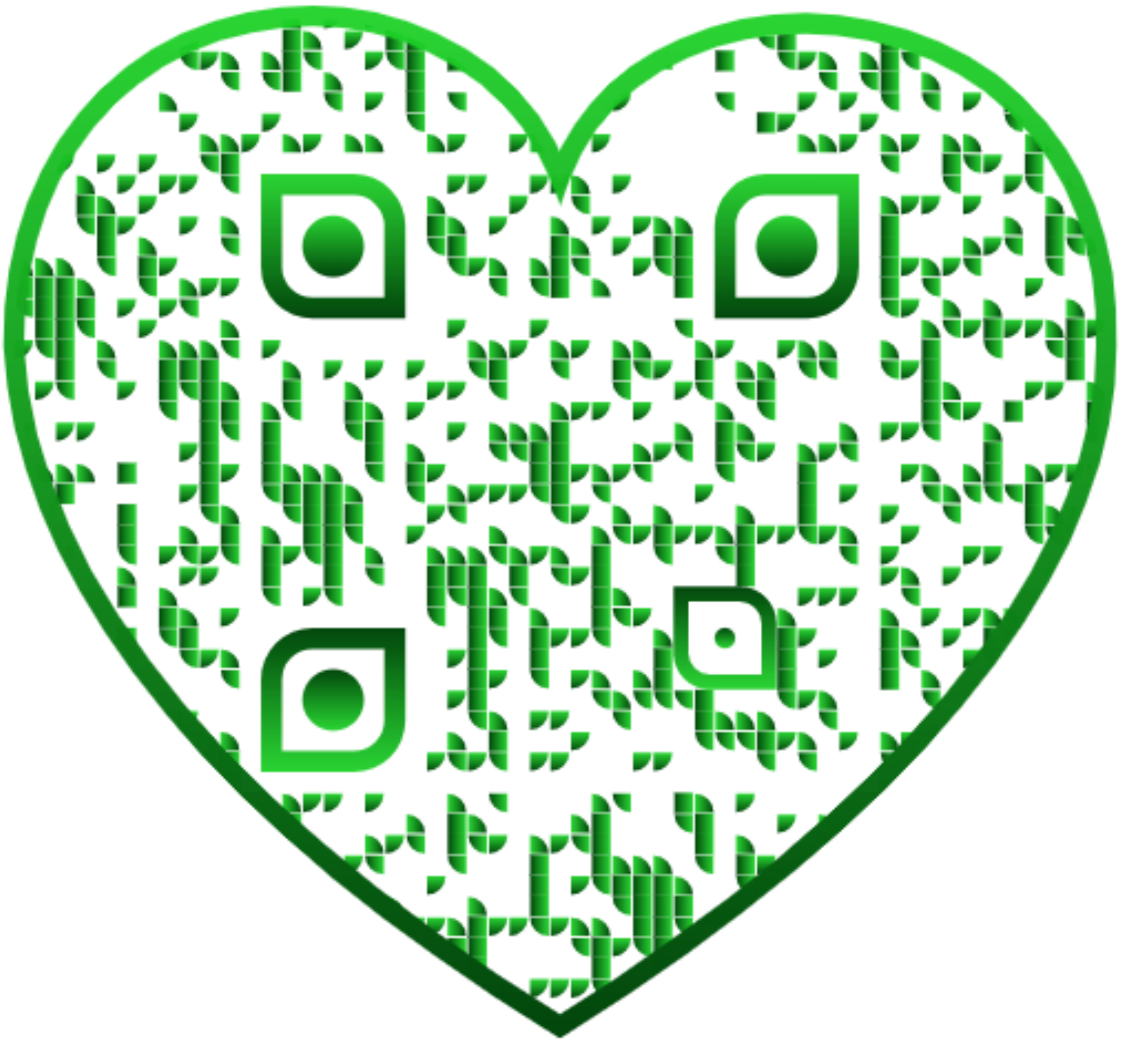

7) The Sertoli cells controls the FSH secretion through the release of:

a- Testosterone.
b- Inhibin.
c- Estrogen.
d- Relaxin.

8) Estrogen produces all the following effects EXCEPT:

a- Uterine development at puberty.
b- Development of the acini of mammary gland.
c- The proliferative phase of the menstrual cycle.
d- The secondary sex characteristics in females.

9) *Estrogens in the circulation are secreted from the following EXCEPT:*

a-The corpus luteum.
b- The theca interna.
c- The granulosa cells of the graafian follicle.
d- The placenta.

10) About ovulation, all of the following is true EXCEPT:

a- It is normally occurs on the 14th day of the ovarian cycle.
b- It occurs as a result of the LH surge.
c- It is associated with a lower abdominal pain.
d- It is due to rupture of corpus luteum.

11) *During follicular phase of ovarian cycle:*

a- LH surge occurs 8 days before ovulation.
b- FSH is the predominant hormone during its early part.
c- The predominant ovarian hormone is progesterone.
d- Inhibin hormone is high.

12) *Prolactin secretion is stimulated by the following EXCEPT*

a- Sleep.
b- Exercise.
c- Stress.
d- L-dopa.

Part-II (Essay Questions)(21 marks)

Give a short account on:

1- Reregulation of the renal blood flow.

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2- Metabolic alkalosis.

3- Phases of menstrual cycle.

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4- Factors that affect spermatogenesis.

Good Luck

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51. **Pulmonary compliance is characterized by which of the following statements**
    a. It decreases with advanced age
    b. It increases in patients with pulmonary edema
    c. It is equivalent to $\Delta P/\Delta V$
    d. It is inversely related to the elastic recoil properties of the lung
    e. It increases when there is a deficiency of surfactant.

Part-II (Essay Questions)

1- Give a short account on regulation of calcitriol.

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2- *Give a short account on factors that affect glomerular filtration rate.*

Good Luck

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Part three: essays:-

Anatomy:

Give short notes on the followings:-

1. Stomach bed
2. Surface anatomy of the spleen
3. Internal surface of the anal canal
4. Relations of the head of the pancreas

pathology:

1. What is the etiology and pathogenesis of Crohn's disease?
2. Compare between the different types of pathological jaundice?
3. Mention the pathologic & clinical features of hepatic failure?
4. Mention the types and functions of different epithelial cells in mucosa and submucosa of small intestine?

physiology:

1. Summarize the factors that affect the rate of gastric emptying.
2. Explain the control (regulation) of exocrine pancreatic secretion.
3. Discuss the functions of bile salts.
4. Give an account on the defecation reflex.

Parasitology

a)In a table compare between Schistosoma haematobium and mansoni.
b)Describe

1) the infective stage(s) of Entamoeba histolytica.
2)the diagnostic stage(s) of Hymenolepis nana.

biochemistry: Write short note about proteins digestion.

Microbiology: Write short notes on the followings:

a) Verotoxogenic E. coli (VTEC)
b) Vibrio cholera toxin .

Pharmachology:

A. Mention: Causes and treatment of hepatic encephalopathy ?
B. Write about: Laxative abuse ?

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Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 4th medical students.
Subject: Urogenital Physiology Exam
Term1st Year2011/2012
Date: 28/2/2012
Allotted time for all branch: 3 hr

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
المستوى: الرابع..
الفصل الاول للعام الدراسي: ٢٠١١/٢٠١٢
الدور:.. .الأول.....التاريخ: ٢٠١٢/٢/٢٨

Abdulfattah Esmail AL-Rezi

Part –I (MCQs) Select a single best answer from the following (6 marks):

1) *All of the following conditions produce metabolic acidosis EXCEPT:*
   a- Excessive vomiting.
   b- Uncontrolled diabetes mellitus.
   c- Renal failure.
   d- Addison's disease.
2) *Hydrogen ions in urine:*
   a- Increase by inhibition of carbonic anhydrase activity.
   b- Increase by inhibition of aldosterone secretion.
   c- Increase by a rise in intracellular potassium ion concentration.
   d- Increase by a rise in CO2 content in renal tubular cells.
3) *About plasma clearance, all the following is true EXCEPT:*
   a- Is used for measurement of GFR.
   b- Is used for measurement of renal blood flow directly.
   c- Does not affect renal function by the substances used in it.
   d- Determines the renal handling of the different substances.
4) *Reabsorption of sodium in the proximal convoluted tubules:*
   a- Is enhanced by alkalosis and inhibited by acidosis.
   b- Is enhanced by the increase in NaCl level in ECF.
   c- Is enhanced by aldosterone secretion.
   d- Increases by the increase in the glomerular filtration rate.
5) *The concentration of urine:*
   a- Occurs by inhibition of ADH release.
   b- Increases with increase of the blood volume.
   c- Increases with increase in plasma osmolality.
   d- Increases with drinking a large volume of water.
6) *About the micturition reflex, choose the incorrect statement:*
   a- It is a cortical reflex.
   b- It is a spinal reflex.
   c- It is initiated by bladder distension.
   d- It is maintained by passage of urine through the urethra.

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44. **A spirometer can be used to measure directly**
    a. Inspiratory capacity
    b. Residual volume
    c. Total lung capacity
    d. Functional residual capacity
    e. None of the above

45. **The percentage of Hb saturated with oxygen will increase if**
    a. the arterial pH is decrease
    b. the temperature is increase
    c. the arterial pO2 is increase
    d. the Hb concentration is increase
    e. the arterial pCO2 is increase

46. **The oxygen dissociation curve is moved to the right by**
    a. ↓ 2, 3 DPG
    b. ↓ in temperature
    c. Fetal Hb
    d. ↓ pH
    e. Presence of carbon monoxide

47. **When CO2 diffuses into blood in the systemic capillaries most of it**
    a. remains in solution as CO2
    b. is converted into carbamino compounds
    c. is converted to bicarbonate ions in the red blood corpuscles
    d. combines with hemoglobin directly
    e. combines with water in the plasma to form carbonic acid

48. . **Ventilation & perfusion relationships vary in the upright lung**
    a. ventilation is greater at apex than base
    b. perfusion is greater at apex than base
    c. variation in ventilation is greater than perfusion
    d. V/Q is more than 3x greater at apex than base
    e. V/Q approaches unity at apex

49. **Peripheral and central chemoreceptors may both contribute to the increased ventilation that occurs as a result of**
    a. Decrease in arterial O2 content
    b. Decrease in arterial BP
    c. Increase in arterial CO2 tension
    d. Decrease in arterial O2 tension
    e. Increase in arterial pH

50. **Regarding regional differences in gas exchange**
    a. The dependent lung is best ventilated in a patient lying on his side
    b. Ventilation is greater at the apex of the lung compared with the base in a standing patient
    c. In a supine patient – the anterior part of the lung is ventilated better than the posterior part
    d. Blood flow is higher at the top of the lungs compared with the bottom
    e. The difference between pCO2 at the top versus bottom of the lung is 40mmHg

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37. **Loop of Henle:**
    a. Creates and maintains an osmotic gradient in the renal medullary interstitium.
    b. Is impermeable to solutes but highly permeable to water in its descending limb.
    c. Is permeable to water but impermeable to solutes in its thin segment of the ascending limb.
    d. Passively reabsorb sodium and potassium ions in the thick segment of the ascending limb.

Respiration

38. **Pulmonary vasoconstriction occurs in the following circumstances EXCEPT:**
    a. Hypoxia
    b. Sympathetic outflow
    c. High altitude
    d. Alkalosis
    e. All of the above

39. **Measuring Dead Space Fraction in the Clinical Setting is important because all of the followings except?**
    a. Indicator of the Severity of Lung Injury and a Predictor of Mortality
    b. Can be used to assess the severity of lung injury
    c. Predicts survival in ARDS and in the diagnosis of pulmonary embolism
    d. a predictor of successful weaning from mechanical ventilation
    e. non of above

40. **All are pathophysiologic consequences of hyperventilation except one**
    a. SV & CO and cerebral blood flow decreased
    b. Coronary blood flow decreased
    c. Oxy-hemoglobin affinity decrease
    d. Skeletal muscle spasm &tetany
    e. Serum potassium decreased

41. **Alveoli can be found in:**
    a. Main Bronchi
    b. Lobar Bronchi
    c. Segmental Bronchi
    d. Terminal Bronchiole
    e. Respiratory Bronchiole

42. **Two healthy women with identical tidal volumes are subjected to spirometry and blood gas measurements. Subject A doubles her tidal volume and decreases her respiratory rate to ½ of baseline. Subject B decreases her tidal volume to ½ of baseline and doubles her respiratory rate. Which of the following statements about the resulting alveolar ventilation in the two women is true?**
    a. Alveolar ventilation is unchanged in both subjects
    b. Alveolar ventilation increases in both subjects
    c. Alveolar ventilation decreases in both subjects
    d. Alveolar ventilation increases in subject A and decreases in subject B
    e. Alveolar ventilation decreases in subject A and increases in subject B

43. **Reduction of functional Hb associated with anemia or CO poisoning does not produce hyperpnoea because the**
    a. Blood flow to the carotid body is ↓
    b. Total arterial O2 content is maintained within normal range
    c. Carotid body chemoreceptor's are stimulated
    d. Central chemoreceptor's are stimulated
    e. normal partial pressure of O2

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27. All of the following conditions produce metabolic acidosis EXCEPT:
- a. Excessive vomiting.
- b. Uncontrolled diabetes mellitus.
- c. Renal failure.
- d. Addison's disease.

28. About secondary active transport, all the following is true EXCEPT:
- a. A carrier protein is needed.
- b. May be symport or antiport.
- c. Energy required is derived directly from hydrolysis of ATP.
- d. Glucose absorption is an example of secondary active transport.

29. Hydrogen ions in urine:
- a. Increase by inhibition of carbonic anhydrase activity.
- b. Increase by inhibition of aldosterone secretion.
- c. Increase by a rise in intracellular potassium ion concentration.
- d. Increase by a rise in CO2 content in renal tubular cells.

30. *About the micturition reflex, choose the incorrect statement:*
- a- It is a cortical reflex.
- b- It is a spinal reflex.
- c- It is initiated by bladder distension.
- d- It is maintained by passage of urine through the urethra.

31. All of the following are causes of acute renal failure EXCPET:
- a- Tubular necrosis.
- b- Severe renal ischemia.
- c- Acute glomerulonephritis.
- d- Congenital polycystic disease.

32. About plasma clearance, all the following is true EXCEPT:
- a- Is used for measurement of GFR.
- b- Is used for measurement of renal blood flow directly.
- c- Does not affect renal function by the substances used in it.
- d- Determines the renal handling of the different substances.

33. When a patient is treated with an aldosterone antagonist there is likely to be a fall in:
- a. urine volume
- b. plasma potassium concentration
- c. blood volume
- d. blood viscosity.

34. The tonicity of the urine as it enters the renal collecting duct may be:
- a. isotonic
- b. hypotoic or isotonic, but never hypertonic
- c. hypotonic
- d. hypertonic

35. Regarding the secretion of rennin, all the followings are correct EXCEPT:
- a. is believed to occur from the cells of the juxtaglomerular apparatus
- b. leads to fluid retentions by decreasing the glomerular filtration rate
- c. leads to increase formation of angiotensin II in the blood
- d. leads to raised aldosterone level in the blood

36. Renin secretion by the kidney is increased by:
- a. increasing mean blood pressure
- b. increasing glomerular filtration rate
- c. increasing sympathetic nerve activity
- d. increasing angiotensin II synthesis

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18. **In diabetes mellitus:**
    a. the osmolality of the extracellular fluid tends to fall
    b. the appetite is usually depressed
    c. the plasma bicarbonate level rises in severe cases
    d. the blood volume tends to fall in severe cases
19. **Adrenal insufficiency causes:**
    a. an increase in extracellular fluid volume
    b. increased breakdown of protein
    c. low blood pressure
    d. a rise in the plasma sodium : potassium ratio
20. **Parathormone :**
    a. Increase the Ca++ absorption from intestine directely.
    b. mobilizes calcium from bone independently of its action on the kidney
    c. It increases phosphate reabsorption in the proximal convoluted tubules of the kidney
    d. in the blood is decreased in a mount when the calcium level falls
21. **Concerning glucagon secretion all of the following are true EXCEPT:**
    a. Is stimulated by hypoglycemia.
    b. Is inhibited by cortisol.
    c. Is inhibited by secretin hormone.
    d. Is stimulated by sympathetic.
22. **ADH :**
    a- Causes water retention by action on V1A receptors.
    b- Produces vasoconstriction by its physiological level.
    c- Release is stimulated by hypervolemia.
    d- Release is inhibited by alcohol.
23. **Thyroid peroxidase is required for all of the following steps in thyroid hormone synthesis EXCEPT:**
    a- Iodide uptake.
    b- Oxidation of iodide.
    c- Iodination of active iodide.
    d- Coupling of iodotyrosines.
24. **Hyperthyroidism is associated with:**
    a. a positive nitrogen balance
    b. a decreased urinary excretion of calcium
    c. certain features which can be explained by excessive beta adrenergic stimulation
    d. a rise in the level of the plasma proteins which bind thyroxin.
25. **Aldosterone :**
    a. Secretion markedly increases in case of haemorrhage.
    b. Acts mainly at the proximal convoluted tubules of the kidney.
    c. Is secreted in response to ingestion of NaCl or increased blood volume.
    d. Promotes Na^+ secretion and K^+ retention.

Renal

26. **Reabsorption of sodium in the proximal convoluted tubules:**
    a. Is enhanced by alkalosis and inhibited by acidosis.
    b. Is enhanced by the increase in NaCl level in ECF.
    c. Is enhanced by aldosterone secretion.
    d. Increases by the increase in the glomerular filtration rate.

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3- Mention the factors affecting growth hormone secretion (10marks).

↑GH

1. hypo glycemia
2. Fasting / Exercise
3. Non Rem sleep
4. hormons — Andro
   (glucagon ~~Adrinalin~~ ADH Estrogen)
5. Stress
6. ↑A.A

↓GH

- hyper
- GH itself
- Rem
- cortisol
- IGF-1
- ↑F.A

Good Luck

Endo

4

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Republic of Yemen
Sana'a University
Faculty of Medicine & Health Sciences
Physiology Department
time: .....

الجمهورية اليمنية
جامعة صنعاء
كلية الطب والعلوم الصحية
قسم الفسيولوجي
الزمن: ..ساعتان....

A

2013/2012

Part –I (MCQs)Select a single best answer from the following:

Endocrine

1. **Insulin-like growth factors I:**
   a. Is produced by the liver and other tissues.
   b. Promotes fetal tissue growth in the intrauterine life.
   c. Absence does not affect growth promotion.
   d. Has a strong insulin-like and antilipolytic action.
2. **A high plasma Ca^{2+} level cause :**
   a. increased formation of 1,25 dihydroxycholecalciferol
   b. decreased secretion of calcitonin
   c. decreased blood coagulability
   d. increased formation of 24,25- dihydroxychlecalciferol
3. **The secretion of growth hormone:**
   a. is normally dependent on the integrity of the brain cortex
   b. ceases when the adult state in reached
   c. is decreased following severe injury (trauma)
   d. is increased during fasting and other states where the blood glucose level in reduced
4. **Insulin increase the entry of glucose into:**
   a. all tissues
   b. renal tubular cells
   c. neurons in the cerebral cortex
   d. skeletal muscle
5. **TSH produces:**
   a. Increased thyroidal uptake of iodine.
   b. increased coupling of monoiodotyrosine and diiodotyrosine
   c. An increase in the size of the thyroid gland.
   d. All are correct.
6. **Adrenaline and noradrenaline:**
   a. are both secreted by neurons in the autonomic nervous system.
   b. are polypeptides
   c. have equal affinity for α - and β- adrenerigicreceptotros.
   d. non are correct
7. **Which of the following exerts the greatest effect on parathyroid hormone secretion?**
   a. the plasma phosphate concentration
   b. calcitonin
   c. 1.25 dihydroxycholecalciterol
   d. the plasma Ca^{2+} concentration
8. **The indirect action of growth hormone include :**
   a. Stimulation of soft tissue growth.
   b. Lipolysis
   c. Lactogenic activity.
   d. Stimulation of cartilage formation (chondrogenesis)

Abdulfattah Esmail Al-Razi

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5- Insulin :

a- Decreases both amino acids and glucose uptake by the cells.

b- Elevates the plasma K^+ level.

c- Increases the rate of triglyceride synthesis in adipose tissues.

d- Stimulates hepatic gluconeogenesis.

6- Aldosterone :

a- Secretion markedly increases in case of haemorrhage.

b- Acts mainly at the proximal convoluted tubules of the kidney.

c- Is secreted in response to ingestion of NaCl or increased blood volume.

d- Promotes Na^+ secretion and K^+ retention.

7- Calcitonin :

a- Secretion is stimulated by high plasma calcium concentration.

b- Stimulates osteoclastic activity.

c- Stimulates Ca and phosphate reabsorption in renal tubules.

d- Secretion can be inhibited by gastrin and estrogen.

8- The parathyroid :

a- Is secreted by parafollicular cells of thyroid gland.

b- It increases phosphate reabsorption in the proximal convoluted tubules of the kidney.

c- It mobilizes calcium from bone to blood.

d- Its secretion is stimulated when plasma Ca level is increased.

9- Concerning glucagon secretion all of the following are true EXCEPT:

a- Is stimulated by hypoglycemia.

b- Is inhibited by cortisol.

c- Is inhibited by secretin hormone.

d- Is stimulated by sympathetic.

10 – Concerning insulin secretion all of the following are true EXCEPT:

a. Is inhibited by vagal stimulation.

b. Is stimulated by amino acid transfusion.

c. Is inhibited by somatostatin.

d. Is inhibited by α- adrenergic stimulants.

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Part-II (Essay Questions) (٦٠ marks)

1- *Give a short account on functions of glucocorticoids hormones (30 marks).*

2- *Give a short account on mechanism of action of hormones (20 marks).*

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3- Mention the factors affecting growth hormone secretion (10marks).

Good Luck

(4)

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Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 3rd medical students.
Subject: GIT Physiology Exam
First term. Year 2011/2012
Date: 20/3/2012
Number of pages: 3
Allotted time: 40 mins

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
امتحان مادة: الجهاز الهضمي المعوي-علم وظائف الأعضاء
المستوى: الثالث
للعام الدراسي: 2012/2011م. الفصل: الأول
الدور: الأول. التاريخ: 2012/3/20م
عدد الصفحات: 3. الزمن: 40 دقيقة

Part –I (MCQs) Select a single best answer from the following (3marks):

1) *Which one of the following plexuses is concerned with peristaltic activity in the digestive system?*
   a- Submucous.
   b- Meissner's
   c- Myenteric.
   d- Sympathetic.
   e- Prevertebral.

2) *The salivary secretions, at rest, are:*
   a- Neutral.
   b- Slightly alkaline.
   c- Strongly alkaline.
   d- Slightly acidic.
   e- Strongly acidic.

3) *Gastric intrinsic factor is secreted from:*
   a- S-cells of enteroendocrine cells
   b- G-cells of the antrum.
   c- Peptic cells.
   d- Chief cells.
   e- Parietal cells.

4) *Digestion of protein begins at which one of the following parts of the digestive system?*
   a- Oral cavity.
   b- Esophagus.
   c- Stomach.
   d- Duodenum.
   e- Jejunum.

5) Which one of the following monosaccharide is transported across the intestinal epithelium in similar fashion to that of glucose?
   a- Fructose
   b- Galactose.
   c- Pentose.
   d- Maltose.
   e- Ribose.

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3. 39years complains of substernal pain following meals. Biopsy shows intestinal mucosa. Malabsorption
4. A 5 month old male has absence of ganglion cells on biopsy of the colon 6 cm above the anal verge. Congenital ..... Malformation
5. 31 year old female has AIDS. Ca Z ..... Sexually .....
6. . A 40 year old female with a history of chronic alcoholism suddenly has severe hematemesis.. Squamous ..... Carcinoma
7. Incidental nodule in non-cirrhotic liver. ulcerative .....
8. A cachectic-appearing 24-year-old female complain of chronic with abdominal distension and bloating.. A small intestinal biopsy demonstrates villous atrophy with many lymphocytes. These findings are most characteristic for:
9. A gastric biopsy demonstrates the appearance of neoplastic signet ring cells seen with H&E stain.

a. Barrett's esophagus
b. Mallory –Weiss syndrome
c. Crohn's disease
d. Focal nodular hyperplasia.
e. Ulcerative colitis
f. Celiac disease
g. Achalasia
h. Pseudo membranous colitis
i. Ischemic colitis
j. Gastric adenocarcinoma.
k. Hairy leukoplakia
l. H.pylori
m. Ulcerative colitis
n. Hirschsprung's disease
o. Macronodular hyperplasia

Part III

Give short account on layers of benign gastric ulcer concerning gross appearance & microscopy

Gross .Swallowing - Redness - pain in Abdominal wall

Microscopic description

Swallowing - Pus .....

.....

Dark Colour - Not Regular .....

....

Describe hepatic acinus

Cause e.g. .....

Cases by Contaminate May be by water or .....

food - due to jaundice - joint Pain - .....

yellow Skin, yellow eyes - Abdominal Pain .....

Vomiting - Nausea .....

Good Luck

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Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 3rd medical students.
Subject: GIT Anatomy Exam
First term. Year 2011/2012
Date: 20/3/2012
Number of pages: 6
Allotted time: 80 mins

جمهورية اليمن
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
امتحان مادة: الجهاز المعدي المعوي- تشريح.
المستوى: الثالث
للعام الدراسي: 2012/2011م. الفصل: الأول
الدور: الأول التاريخ: 2012/3/20م
عدد الصفحات: 6 الزمن: 80 دقيقة

1- *The following structures are present within the lesser omentum except* which?
a. The portal vein
b. The bile duct
c. The inferior vena cava
d. The hepatic artery
e. The lymph nodes

2- *One of these structures is not found at the stomach bed :*
a. the spleen
b. the body of pancreas
c. left suprarenal gland
d. transverse colon
e. mesentery of the small bowel.

3- *Concerning gall bladder, one statement is false:*
a. Its neck become continuous with the cystic duct.
b. It is supplied by cystic artery from right branch of the hepatic artery.
c. It is completely covered by peritoneum.
d. The cystic duct has spiral valve.
e. The fundus lies opposite the tip of the right ninth costal cartilage .

4- *Concerning superior mesenteric artery ,one statement is false?*
a. It arises from abdominal aorta at the level of the 1st lumber vertebra.
b. Passes infront the 3rd part of duoedenum whrere it enters the root of mesentery of small bowel.
c. In the root of mesentery it passes downward and to the right.
d. It runs along the right side of superior mesenteric vein.
e. It is the artery of the midgut.

5- *In acute colecystitis , the pain is radiated into right shoulder via:*
a. Right supraclavicular nerve (C3, C4).
b. right transverse cervical nerve (C2,C3)
c. right greater auricular nerve(C2, C3)
d. right phrenic nerve (C3,C4,C5)
e. right lesser occipital nerve (C2,C3)

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3- *Explain the following, according to physiological bases* (2 marks):

a- Infants and children are more vulnerable for gastroenteritis than adults.

because Low volum of HCL in stomach so the mic ~~because it is not kill~~ the microorganism that is ingested with food is not killed by HCL a

b- Portal venous blood of the GIT contains higher oxygen concentration than other systemic veins.

because the hepatic artery unite to it before enter the Liver

Good Luck

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Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 4th medical students.
Subject: Urogenital Physiology Exam
Term.....Year.....
Date: .....
Allotted time: .....

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
المستوى: الرابع.. المادة: علم وظائف الاعضاء:.....
الفصل الاول للعام الدراسي:2011-2012
الدور:.. .....التاريخ: 21-6-2012
عدد الصفحات: 3 ..... الزمن:.....

Physio

Part –I (MCQs) Select a single best answer from the following (8 marks):

1. **The juxtaglomerular apparatus:**
   a. includes a long loop of Henle that dips into the medulla
   b. participates in the control of aldosterone secretion through the rein-angiotensin system
   c. is involved in maintaining the normal balance of calcium in the body
   d. functions as a sphincter around the distal tubules
2. **The renal "countercurrent" mechanism is dependent upon the anatomical arrangement of the:**
   a. loop of Henle and collecting duct
   b. glomerulus and proximal tubule
   c. vasa recta and loop of Henle
   d. proximal tubule and distal tubule.
3. **The proximal convoluted tubules:**
   a. reabsorb most of the sodium in the glomerular filtrate
   b. are the main target for aldosterone hormone
   c. contain juxtaglomerular cells which secrete renin
   d. Are the main targets for ADH.
4. **A patient suffering from a deficiency of ADH is likely to:**
   a. excrete urine with specific gravity higher than 1.005
   b. produce a quantity of urine per day equal in volume to the glomerular filtrate
   c. have extracellular fluid with a raised osmolality
   d. Have intracellular fluid with a lowered osmolality.

1 Blood

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* FSH → seminfrens tubu
→ spermatogens
* LH → interstial cell →
testosteron

5. *Hydrogen ions in urine:*
   a- Increase by inhibition of carbonic anhydrase activity.
   a- Increase by inhibition of aldosterone secretion.
   b- Increase by a rise in intracellular potassium ion concentration.
   c- Increase by a rise in CO2 content in renal tubular cells.
6. *About plasma clearance, all the following is true EXCEPT:*
   a- Is used for measurement of GFR.
   b- Is used for measurement of renal blood flow directly.
   c- Does not affect renal function by the substances used in it.
   d- Determines the renal handling of the different substances.
7. *Reabsorption of sodium in the proximal convoluted tubules:*
   a- Is enhanced by alkalosis and inhibited by acidosis.
   b- Is enhanced by the increase in NaCl level in ECF.
   c- Is enhanced by aldosterone secretion.
   d- Increases by the increase in the glomerular filtration rate.
8. **The concentration of urine:**
   a- Occurs by inhibition of ADH release.
   b- Increases with increase of the blood volume.
   c- Increases with increase in plasma osmolality.
   d- Increases with drinking a large volume of water.
9. **Which of the following is false, regarding progesterone?**
   a. Produced by the ovaries
   b. Secreted by the placenta
   c. Secreted by the corpus luteum
   d. Enhances fertility
10. **During a normal menstrual cycle :**
   a. the lifetime of the corpus luteum is about 30 days
   b. the rising concentration of estrogen secreted by the ripening follicle triggers the luteinizing hormone (LH) peak
   c. ovulation will occur exactly 14 days after the last vaginal bleeding
   d. the corpus luteum is controlled by the FSH concentration in the blood
11. **Luteinizing hormone (LH) in males**
   a. stimulates secretion of testosterone
   b. has a trophic effect on the breast
   c. acts on the seminiferous tubules increasing sperm formation
   d. All are correct.

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12. **The secretion of testosterone by the testes**
   a- occurs in the Sertoli cells
   b- is the responsibility of mature sperm cells
   c- is under control of the sympathetic innervations of the area
   d- reaches peak at about 20 years of age in the normal male

13. **Testosterone causes:**
   a. activation of pituitary secretion of LH
   b. an increase in scalp hair
   c. the epiphyses of long bones to unite
   d. a negative nitrogen balance

14. **The ovaries:**
   a. start to form ova at puberty
   b. discharge 5-10 ova during each menstrual cycle
   c. may be influenced by hormones from the neurohypophysis
   d. are essential for cyclical uterine activity

15. ***The Sertoli cells controls the FSH secretion through the release of:***
   a- Testosterone.
   b- Inhibin.
   c- Estrogen.
   d- Relaxin.

16. ***During follicular phase of ovarian cycle:***
   a- LH surge occurs 8 days before ovulation.
   b- FSH is the predominant hormone during its early part.
   c- The predominant ovarian hormone is progesterone.
   d- Inhibin hormone is high.

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Part-II (Essay Questions) (19 marks)

1- Mention the hormones that control the kidney.

1- Aldosteron
- cortical c.D
- Late part of DCT

2- ADH
- cortical c.D
- Late part DCT

3- PTH
- PCT
- ~~Le~~ Late part of DCT

2- Give a short account on factors that affect glomerular filtration rate.

1- RBF
2- ~~AB~~ GCP
- Afferent .a Diameter
- effent .a ~
- symphtic
- ABP (90-140) (80-160) ↓80 - ↑160)

3- ↑surface area
4- ↑permeability (temp) (inf)
5- ↑hydrostatic .P Bowman obst → ↑osm ↓Pi
6- ↑osmotic .P in G ~~obst~~ ↑plasma protein - ↑osmotic ↓Pi H

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3- Give a short account on functions of estrogen hormone.

Good Luck

(5)

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Faculty of Medicine & Health Sciences
Physiology Blood Exam
2nd yr Medical Students
Date: 11/2/12
Alloted time: 35 minutes
N° of Pages: 3

Physio

Abdulfattah Esmil Al-Rai

Part –I MCQs (6 marks)

Select a Single Best Choice from the Following:

1) *Plasma volume of an adult weighing 80Kg is:*
   a- 3 liters.
   b- 4 liters.
   c- 5 liters.
   d- 6 liters.
   e- 7 liters.

$80 \times \frac{8}{100}$

2) *Regarding red blood cells, which of the followings is false?*
   a- They are non nucleated.
   b- They are biconcave.
   c- They are true cells.
   d- Contain carbonic anhydrase enzyme.
   e- Share in blood viscosity.

3) *Extramedullary erythropoiesis occurs normally during:*
   a- Fetal life.
   b- Infancy.
   c- Childhood.
   d- Adult age.
   e- Elderly.

4) *A group (B-) patient can receive blood safely for the second time from a donor with blood group of:*
   a- AB+
   b- B+
   c- O+
   d- AB-
   e- O-

5) *Which one of the following clotting factors is not vit-K dependent in its production?*
   a- Factor I.
   b- Factor II.
   c- Factor VII.
   d- Factor IX.
   e- Factor X.

1972

6) *Humoral immunity is the function of:*
   a- Neutrophils.
   b- Monocytes
   c- Macrophages.
   d- B-Lymphocytes
   e- T-Lymphocytes.

1

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2) *Mention the causes of (Explain) the following:*

a- *Erythroblastosis fetalis is caused by an Rh incompatibility but not by an ABO incompatibility (2 marks).*

Due to Formation of Ab against RH(+)

(RH-) Receve From RH+)

b- *Anaemia is commonly seen in patients with kidney diseases (2 marks).*

Erythropoitin

Good luck

Kasstore

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المستوى:

الاسم:

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية الطب والعلوم الصحية
اختبار مادة: فسيولوجيا الدم
المستوى: الرابع
الفصل: الأول للعام 2012/2011م
الدور: الأول
الزمن: 35 دقيقة. 3 صفحات.

University of Science & Technology
Faculty of Medicine & Health Sciences
Physiology of Blood Exam
4th yr Medical Students
Date: 25 /7/2012
Allotted time: 35 minutes
N° of Pages: 3

AL-R of Physio

Part –I MCQs (6 marks)

Select a Single Best Choice from the Following:

1) *Plasma albumins are synthesized mainly in the:*
   a- Lungs
   b- Liver.
   c- Heart.
   d- Reticuloendothelial system.
   e- Lymph nodes.

2) *A male patient with haematocrit value of 55 % is considered to have:*
   a- Anaemia.
   b- Leukaemia.
   c- Leucocytosis.
   d- Polycythaemia.
   e- Thrompocytopenia.

3) *The plasma of a normal (AB+) person contains:*
   a- Anti-A agglutinins.
   b- Anti-B agglutinins.
   c- Anti-D agglutinins.
   d- All of the above.
   e- None of the above

4) *An (A-) patient can receive blood safely, for the second time, from a donor with blood group of:*
   a- A+
   b- B+
   c- AB+
   d- AB
   e- O-

5) *Which of the following leucocytes specifically attack parasites?*
   a- Neutrophils.
   b- Oesinophils.
   c- Basophils.
   d- B-Lymphocytes.
   e- Monocytes.

6) *Regarding intrinsic mechanism of blood coagulation, which of the followings is false?*
   a- By which the blood clot in test tubes.
   b- All its components are found in the blood.
   c- Requires tissue thromboplastine.
   d- Occurs invivo and invitro.
   e- Occurs within minutes.

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Part –II Essay Questions (10 marks)

Give a short account on each of the following:

1) *Functions of the red blood cells (RBCs (3 marks).*

1- major transporter Medies
- Nutritional - Respiration
- Execration - Metabolism Horman
- tempreture
2- Acid Base balance Regulation
3- Water Balance ~ (transport to Kidney)
4- B.P (↑viscusity ↑Bp ↑P.R)
5- Defense (Ab Formation - phagocytes)
6- clotting (platles, coagulative f.)

at Hb=7.4 $\frac{HCO_3}{CO_2}=20$

R=co x p.R

↑viscusity

↑ P.R

↑ B.P

5. (✗ 2) *Physiological factors that prevent blood clotting in normal uninjured blood vessels (3 marks).*

↓ coagulation in Vitro
1- ↓ vit. K
2- Low Dose of Asprin
3- heparin and warfarin ((Ducumarol))

5 8 done

2

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3) *Mention the causes of (Explain) the following:*

a- *The serum does not clot (2 marks).*

Serum Does no have Fibrinogen
becaus of adelition of Anti coagulant
befor seprating Blood.

b- *Eryhtroblastosis fetalis is caused by an Rh incompatibility but not by an ABO incompatibility (2 marks).*

Formed of Ab in mother's plasma
against the RH(+) of baby
Blood of mother (-) can cross
placenta
RH(Ab) naturaly Not pressent

Good luck

Abdul fattah Al-Razi

B Sam

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Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 4th medical students.
Subject: Urogenital Physiology Exam
Term1st Year2011/2012
Date: 28/2/2012
Allotted time for all branch: 3 hr

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
المستوى: الرابع..
الفصل الاول للعام الدراسي: ٢٠١١/٢٠١٢
الدور: .الأول.....التاريخ: ٢٠١٢/٢/٢٨

Physio

Part –I (MCQs) Select a single best answer from the following (6 marks):

1) *All of the following conditions produce metabolic acidosis EXCEPT:*
   a- Excessive vomiting.
   b- Uncontrolled diabetes mellitus.
   c- Renal failure.
   d- Addison's disease.

2) *Hydrogen ions in urine:*
   a- Increase by inhibition of carbonic anhydrase activity.
   b- Increase by inhibition of aldosterone secretion.
   c- Increase by a rise in intracellular potassium ion concentration.
   d- Increase by a rise in CO2 content in renal tubular cells.

3) *About plasma clearance, all the following is true EXCEPT:*
   a- Is used for measurement of GFR.
   b- Is used for measurement of renal blood flow directly.
   c- Does not affect renal function by the substances used in it.
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4) *Reabsorption of sodium in the proximal convoluted tubules:*
   a- Is enhanced by alkalosis and inhibited by acidosis.
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   c- Is enhanced by aldosterone secretion.
   d- Increases by the increase in the glomerular filtration rate.

5) *The concentration of urine:*
   a- Occurs by inhibition of ADH release.
   b- Increases with increase of the blood volume.
   c- Increases with increase in plasma osmolality.
   d- Increases with drinking a large volume of water.

6) *About the micturition reflex, choose the incorrect statement:*
   a- It is a cortical reflex.
   b- It is a spinal reflex.
   c- It is initiated by bladder distension.
   d- It is maintained by passage of urine through the urethra.

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The Sertoli cells controls the FSH secretion through the release of:

a- Testosterone.
b- Inhibin.
c- Estrogen.
d- Relaxin.

8) Estrogen produces all the following effects EXCEPT:

a- Uterine development at puberty.
b- Development of the acini of mammary gland.
c- The proliferative phase of the menstrual cycle.
d- The secondary sex characteristics in females.

9) *Estrogens in the circulation are secreted from the following EXCEPT:*

a-The corpus luteum.
b- The theca interna.
c- The granulosa cells of the graafian follicle.
d- The placenta.

10) About ovulation, all of the following is true EXCEPT:

a- It is normally occurs on the 14th day of the ovarian cycle.
b- It occurs as a result of the LH surge.
c- It is associated with a lower abdominal pain.
d- It is due to rupture of corpus luteum.

11) *During follicular phase of ovarian cycle:*

a- LH surge occurs 8 days before ovulation.
b- FSH is the predominant hormone during its early part.
c- The predominant ovarian hormone is progesterone.
d- Inhibin hormone is high.

12) *Prolactin secretion is stimulated by the following EXCEPT*

a- Sleep.
b- Exercise.
c- Stress.
d- L-dopa.

Part-II (Essay Questions)(21 marks)

Give a short account on:

1- Reregulation of the renal blood flow.

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2- Metabolic alkalosis.

3- Phases of menstrual cycle.

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الاسم: ..... المستوى: .....

Republic of Yemen
UST
College of Medical Sciences
Neurophysiology Exam
1 / 2/2011

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري

Physio

Examination of Neurophysiology for 4th Year Medical Students, 2010/2011
Part –I (MCQs)

Select a single best answer from the following:

1) *Neurons that rely messages between neurons are called:*
   a- Efferent neurons.
   b- Afferent neurons.
   c- Association neurons.
   d- Neuroglia.
   e- Schwan cells.

2) *Receptor potentials:*
   a- Obey the all or none law.
   b- Cannot be graded.
   c- Is followed by absolute refractory period.
   (d) Can be summated.
   e- Is blocked by local anaesthetic drugs.

3) *The ion responsible for the inhibitory postsynaptic potential is:*
   a. Na^+ moving into the cell body.
   b. Cl^- moving into the cell body.
   (c) K^+ moving into the cell body.
   d. K^+ moving out of the cell body.
   e. Both B and D.

4) *Visceral pain:*
   a- Shows rapid adaptation.
   b- Is transmitted by type Aβ nerve fibers.
   (c) Is markedly elicited by diffuse chemical stimuli
   d- Cannot be referred.
   e- Is a pricking, bright pain.

5) *Regarding Wernicke's area (area 22), which of the following is false?*
   a- It is the most important region of the entire brain.
   b- Highly developed in the dominant side of the brain.
   c- It is the area for language comprehension.
   d- It is the general interpretative area
   e- It is the area for word formation

N.S

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6) *Increased activity of gamma motor neurones:*
   a- alters the sensitivity of Golgi tendon organ.
   b- leads to contraction of intrafusal muscle fibers.
   c- decrease the sensitivity of muscle spindle to stretch.
   d- produce a direct effect on extrafusal muscle fibers.
   e- does not affect the intrafusal muscle fibers.

7) *Signals from motor areas of the cortex reach contralateral cerebellum after first passing through:*
   a- caudate nucleus.
   b- red nucleus.
   c- pons.
   d- thalamus.
   e- hypothalamus.

8) *Golgi tendon organ activation:*
   a- stimulate alpha motor neurons.
   b- excite inhibitory interneurones in the spinal cord.
   c- enhance the strength of the stretch reflex.
   d- increase activity of the extrafusal fibers.
   e- increase activity of intrafusal fibers.

9) *Motor apraxia is:*
   a- due to lesion in primary motor area 4.
   b- due to lesion in sensory area.
   c- due to lesion in premotor area.
   d- accompanied with muscle paralysis.
   e- associated with abnormal movements.

10) *Placidity is:*
   a- Similar to rage.
   b- Produced by bilateral destruction of amygdaloid nucleus.
   c- Abolished by lesion in cingulated gyrus.
   d- Produced by stimulation of lateral hypothalamus.
   e- Produced by stimulation of the cerebral cortex.

C.N.S
2

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Part-II (Essay Questions)

1. *Give an account on the physiological characters of pain sensation.*

2. *Explain why despite the nerve fibers transmit only impulses, we experience different modalities of sensations.*

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3. *Give an account on the significance of the stretch reflex.*

4. *Compare the functions of thalamus and hypothalamus.*

C.M.S

14

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بسم الله الرحمن الرحيم

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
المستوى:..الرابع..... المادة:: .....
الفصل ..... للعام الدراسي:.....
الدور:الثاني التاريخ: ٢٠١٢/١/٢٩
الزمن: :.....

Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 4th medical students.
Subject: Endocrine Physiology Exam
Term.....Year.....
Date: .....
Allotted time: .....

Physio

Part –I (MCQs) Select a single best answer from the following (40 marks):

1- **The most biologically active iodothyronines secreted by the thyroid follicles is :**
   a- T3.
   b- T4.
   c- rT3.
   d- Thyroglobulin.

2- **Thyroid peroxidase is required for all of the following steps in thyroid hormone synthesis EXCEPT:**
   a- Iodide uptake.
   b- Oxidation of iodide.
   c- Iodination of active iodide.
   d- Coupling of iodotyrosines.

3- **All of the following are neuropeptide hormones EXCEPT:**
   a- Anti-diuretic hormone (ADH).
   b- Oxytocin.
   c- Somatomedin. →
   d- Thyrotropin releasing hormone (TRH).

4- **All of the following are endocrine glands not under the anterior pituitary control EXCEPT:**
   a- Parathyroid gland.
   b- Posterior pituitary.
   c- Thyroid gland. ✓
   d- Adrenal medulla. ✗

Endo

Cvelo 1

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5- Insulin :

a- Decreases both amino acids and glucose uptake by the cells.
b- Elevates the plasma K^+ level.
c- Increases the rate of triglyceride synthesis in adipose tissues.
d- Stimulates hepatic gluconeogenesis.

6- Aldosterone :

a- Secretion markedly increases in case of haemorrhage.
b- Acts mainly at the proximal convoluted tubules of the kidney.
c- Is secreted in response to ingestion of NaCl or increased blood volume.
d- Promotes Na^+ secretion and K^+ retention.

7- Calcitonin :

a- Secretion is stimulated by high plasma calcium concentration.
b- Stimulates osteoclastic activity.
c- Stimulates Ca and phosphate reabsorption in renal tubules.
d- Secretion can be inhibited by gastrin and estrogen.

8- The parathyroid :

a- Is secreted by parafollicular cells of thyroid gland.
b- It increases phosphate reabsorption in the proximal convoluted tubules of the kidney.
c- It mobilizes calcium from bone to blood.
d- Its secretion is stimulated when plasma Ca level is increased.

9- Concerning glucagon secretion all of the following are true EXCEPT:

a- Is stimulated by hypoglycemia.
b- Is inhibited by cortisol.
c- Is inhibited by secretin hormone.
d- Is stimulated by sympathetic.

10 – Concerning insulin secretion all of the following are true EXCEPT:

a. Is inhibited by vagal stimulation.
b. Is stimulated by amino acid transfusion.
c. Is inhibited by somatostatin.
d. Is inhibited by α- adrenergic stimulants.

Endo (2)

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Part-II (Essay Questions) (٦٠ marks)

1- *Give a short account on functions of glucocorticoids hormones (30 marks).*

cortisol

1. metabolic — Protin, Fat, carbohydrat
2. Anti inf
3. Anti allrgic
4. Erythropoesis
5. ~~Respiratory~~
6. ~~other~~ hormon
7. Water / Electrolyte balance
8. Blood / Lymphocyte
9. other Function
10. Primetive
11. Risistance to stress

- metabolic
- Water / Electrolyte
- permitive < Glucagon, corticolamin
- Stress
- Blood
- Anti Allrgic
- Anti infla
- Respiratory
- 6 hormons
- other

2- *Give a short account on mechanism of action of hormones (20 marks).*

- protin
- steroid
- thyroid

endo

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بسم الله الرحمن الرحيم

Republic of Yemen
University of Science & Technology
College of Medical Sciences
Level: 4th medical students.
Subject: Endocrine Physiology Exam
Term.....Year.....
Date: .....
Allotted time: .....

Endocrin

الجمهورية اليمنية
جامعة العلوم والتكنولوجيا
كلية العلوم الطبية
الطب البشري
المستوى:..الرابع..... المادة:: .....
الفصل ..... للعام الدراسي:.....
الدور:الثاني التاريخ: ٢٠١٢/١/٢٩
الزمن: :.....

Abdul Fattah Esmail Al-Razi

Part –I (MCQs) Select a single best answer from the following (40 marks):

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   a- Parathyroid gland.
   b- Posterior pituitary.
   c- Thyroid gland.
   d- Adrenal medulla.

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c. Is inhibited by somatostatin.

d. Is inhibited by α- adrenergic stimulants.

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Republic of Yemen
Sana'a University
Faculty of Medicine & Health Sciences
Physiology Department
time: .....

الجمهورية اليمنية
جامعة صنعاء
كلية الطب والعلوم الصحية
قسم الفسيولوجي
الزمن: ..ساعتان....

A

2013/2012

Part –I (MCQs)Select a single best answer from the following:

Endocrine

1. **Insulin-like growth factors I:**
   a. Is produced by the liver and other tissues.
   b. Promotes fetal tissue growth in the intrauterine life.
   c. Absence does not affect growth promotion.
   d. Has a strong insulin-like and antilipolytic action.
2. **A high plasma Ca^{2+} level cause :**
   a. increased formation of 1,25 dihydroxycholecalciferol
   b. decreased secretion of calcitonin
   c. decreased blood coagulability
   d. increased formation of 24,25- dihydroxychlecalciferol
3. **The secretion of growth hormone:**
   a. is normally dependent on the integrity of the brain cortex
   b. ceases when the adult state in reached
   c. is decreased following severe injury (trauma)
   d. is increased during fasting and other states where the blood glucose level in reduced
4. **Insulin increase the entry of glucose into:**
   a. all tissues
   b. renal tubular cells
   c. neurons in the cerebral cortex
   d. skeletal muscle
5. **TSH produces:**
   a. Increased thyroidal uptake of iodine.
   b. increased coupling of monoiodotyrosine and diiodotyrosine
   c. An increase in the size of the thyroid gland.
   d. All are correct.
6. **Adrenaline and noradrenaline:**
   a. are both secreted by neurons in the autonomic nervous system.
   b. are polypeptides
   c. have equal affinity for α - and β- adrenerigicreceptotros.
   d. non are correct
7. **Which of the following exerts the greatest effect on parathyroid hormone secretion?**
   a. the plasma phosphate concentration
   b. calcitonin
   c. 1.25 dihydroxycholecalciterol
   d. the plasma Ca^{2+} concentration
8. **The indirect action of growth hormone include :**
   a. Stimulation of soft tissue growth.
   b. Lipolysis
   c. Lactogenic activity.
   d. Stimulation of cartilage formation (chondrogenesis)

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9. Hypopituitarism is characterized by:
   a. infertility
   b. pallor
   c. a low basal metabolic rate
   d. all are correct

10. Pancreatic glucagon:
   a. is a polypeptide produced by the beta cells of the islets of Langerhans
   b. is essential for the maintenance of the blood glucose level
   c. output is directly proportional to the blood glucose level
   d. increases the breakdown of liver glycogen

11. **When a thyroid gland increases its activity, all the following are correct EXCEPT:**
   a- the follicles enlarge and fill with colloid ✓
   a- small gaps (lacunae) appear in the colloid ✓
   b- the follicular cells become more columnar ✓
   c- it takes up iodide from the blood at a faster rate ✗

12. **Oxytocin secretion promotes all of the following actions EXCEPT:**
   a- Myometrial contraction.
   b- Lactogenesis.
   c- Milk ejection.
   d- Myoepithelial contraction.

13. **Calcitonin :**
   a- Secretion is stimulated by high plasma calcium concentration.
   b- Stimulates osteoclastic activity.
   c- Stimulates Ca and phosphate reabsorption in renal tubules.
   d- Secretion can be inhibited by gastrin and estrogen.

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14. **Calcitriol:**
   a. Stimulates Ca ions reabsorption from PCT of kidney. ✗
   b. Inhibits calbindin-D protein in the intestinal mucosa.
   c. In low or moderate concentrations stimulate osteoclasts to mobilize Ca and phosphate ions from bone. ✗
   d. Calcitriol synthesis is stimulated by a low plasma phosphate.

15. **Glucagon:**
   a. Increases glucose output from the liver.
   b. Is stimulated by GABA release from B- cells.
   c. Is stimulated by secretin hormone.
   d. Is stimulated by alpha-adrenergic stimulants

16. **All of the following are endocrine glands not under the anterior pituitary control EXCEPT:**
   a- Parathyroid gland.
   b- Posterior pituitary.
   c- Thyroid gland.
   d- Adrenal medulla.

17. All of the following are biochemical effects of cortisol EXCEPT:
   a- Hepatic lipogenesis.
   b- Hepatic gluconeogenesis. ✓
   c- Hepatic protein anabolism. ✓
   d- Hepatic glycogenesis. ✗

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